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CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1-10⁹ (canceled)

10. (currently amended) An isolated nucleic acid comprising SEQ ID NO:13, SEQ ID NO:14, and SEQ ID NO:15, which isolated nucleic acid encodes a chain of a protein that binds to CD40.

11. (currently amended) An isolated nucleic acid comprising a nucleotide sequence encoding a chain of a protein, said chain comprising SEQ ID NO:8, SEQ ID NO:9, and SEQ ID NO:10, which protein binds to CD40.

12. (currently amended) The isolated nucleic acid of claim 11 comprising a nucleotide sequence encoding a protein chain comprising (a) a heavy chain variable domain of monoclonal antibody S2C6 as secreted by the hybridoma deposited with the ATCC and assigned accession number PTA-110, and (b) a human constant region.

13. (currently amended) An isolated nucleic acid comprising a nucleotide sequence encoding a chain of a protein, said chain comprising an amino acid sequence that has at least 95% identity to SEQ ID NO:7 over the full length of SEQ ID NO:7 ~~as determined by use of the BLASTp computer program~~, which protein binds to CD40.

C, 14. (currently amended) An isolated nucleic acid comprising a nucleotide sequence encoding an antibody heavy chain ~~a protein~~, which ~~protein~~ antibody competes for binding to CD40 with monoclonal antibody S2C6 as secreted by the hybridoma deposited with the ATCC and assigned accession number PTA-110, and which ~~protein~~ antibody increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 45%.

15. (original) An isolated nucleic acid comprising a nucleotide sequence encoding a fusion protein, said fusion protein comprising an amino acid sequence of bryodin 1 (BD1) fused to SEQ ID NO:7 fused to SEQ ID NO:2.

16. (currently amended) An isolated nucleic acid which hybridizes to the complement of a DNA consisting of a coding DNA sequence encoding a protein consisting of the amino acid sequence of SEQ ID NO:7, under highly stringent conditions, which isolated nucleic acid encodes a chain of a protein that binds CD40.

17. (currently amended) A recombinant cell containing a recombinant nucleic acid comprising a nucleotide sequence encoding an antibody heavy chain ~~a protein~~, which ~~protein~~ antibody competes for binding to CD40 with monoclonal antibody S2C6 as secreted

by the hybridoma deposited with the ATCC and assigned accession number PTA-110, and which ~~protein~~ antibody increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 45%.

18. (previously amended) A recombinant cell containing a recombinant nucleic acid comprising SEQ ID NO:13, SEQ ID NO:14, and SEQ ID NO:15.

19. (currently amended) A method of producing ~~a protein~~ an antibody heavy chain, comprising:

(a) growing a cell containing a recombinant nucleic acid encoding ~~a protein~~ an antibody heavy chain, which ~~protein~~ antibody competes for binding to CD40 with monoclonal antibody S2C6 as deposited with the ATCC and assigned accession number PTA-110, and which ~~protein~~ antibody increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 45%, such that the ~~protein~~ antibody heavy chain is expressed by the cell; and

(b) recovering the expressed ~~protein~~ antibody heavy chain.

20. (currently amended) A method of producing a protein comprising:

(a) growing a cell containing a recombinant nucleic acid encoding a protein comprising SEQ ID NO:8, SEQ ID NO:9, and SEQ ID NO:10, such that a said protein encoded by said nucleotide sequence is expressed by the cell; and

(b) recovering the expressed protein.

21-37 (canceled)

38. (currently amended) An isolated nucleic acid comprising a nucleotide sequence encoding a chain of a protein, wherein said chain comprises ~~comprising~~ SEQ ID NO:8, SEQ ID NO:9, and SEQ ID NO:10, ~~which protein (a) binds CD40, and (b) is a fusion protein comprising the amino acid sequence of a second protein that is not an antibody, and wherein said protein binds CD40.~~

39. (currently amended) An isolated nucleic acid comprising a nucleotide sequence encoding a chain of a protein, said chain comprising an amino acid sequence that has at least 95% identity to SEQ ID NO:7 over the full length of SEQ ID NO:7 ~~as determined by use of the BLASTp computer program~~, which protein (a) binds CD40; and (b) comprises a human immunoglobulin constant domain.

40. (currently amended) An isolated nucleic acid comprising a nucleotide sequence encoding a chain of a protein, said chain comprising an amino acid sequence that comprises regions having at least 80% identity to SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO:10, respectively, over the full length of SEQ ID NO:8, SEQ ID NO:9 and SEQ ID

NO:10, respectively, as determined by use of the BLASTp computer program, which protein (a) binds CD40; and (b) comprises a human immunoglobulin constant domain.

41. (currently amended) The isolated nucleic acid of claim 40, wherein the protein chain comprises at least 2 CDR sequences selected from the group consisting of SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO 10.

42. (currently amended) An isolated nucleic acid comprising a nucleotide sequence encoding a protein that an antibody heavy chain, which antibody (a) binds to CD40; (b) increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 45%; and (c) comprises a human immunoglobulin constant domain.

43. (currently amended) An isolated nucleic acid comprising a nucleotide sequence encoding a chain of a protein, which (a) protein competes for binding to CD40 with monoclonal antibody S2C6 as secreted by the hybridoma deposited with the ATCC and assigned accession number PTA-110 and comprises a human immunoglobulin constant domain; (b) and which chain comprises at least 2 CDR sequences selected from the group consisting of SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO 10; and (c) comprises a human immunoglobulin constant domain.

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44. (currently amended) The isolated nucleic acid of claim 43, wherein the protein chain comprises SEQ ID NO:8 and SEQ ID NO:10.

45. (currently amended) The isolated nucleic acid of claim 38, wherein the protein chain comprises an amino acid sequence of bryodin (BD1) fused to SEQ ID NO:7 fused to SEQ ID NO:2.

46. (currently amended) The isolated nucleic acid of any of claims ~~38-45~~ 39-41, 43 and 44, wherein the protein is an antibody.

47. (previously added) The isolated nucleic acid of claim 46, wherein the antibody is a chimeric antibody.

48. (previously added) The isolated nucleic acid of claim 46, wherein the antibody is a humanized antibody.

49. (previously added) The isolated nucleic acid of claim 46, wherein the antibody is a human antibody.

50. (currently amended) The isolated nucleic acid of claim 38, wherein the protein chain comprises SEQ ID NO:7.

51. (currently amended) The isolated nucleic acid of claim 38 or 50, wherein the protein chain further comprises SEQ ID NO:2.

52. (currently amended) The isolated nucleic acid of claim 14 or 42, wherein the protein antibody increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 50%.

53. (currently amended) The isolated nucleic acid of claim 14 or 42, wherein the protein antibody increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 60%.

54. (currently amended) The isolated nucleic acid of claim 14 or 42, wherein the protein antibody increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 65%.

55. (previously added) The isolated nucleic acid of claim 10, 11, 13, 16, 38, 39, 40 or 43, wherein the protein increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 45%.

56. (previously added) The isolated nucleic acid of claim 10, 11, 13, 16, 38, 39, 40 or 43, wherein the protein increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 50%.

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57. (previously added) The isolated nucleic acid of claim 10, 11, 13, 16, 38, 39, 40 or 43, wherein the protein increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 60%.

58. (previously added) The isolated nucleic acid of claim 10, 11, 13, 16, 38, 39, 40 or 43, wherein the protein increases the binding of CD40 ligand to cell surface CD40 on B cells by at least 65%.

59. (previously added) The isolated nucleic acid of claim 10 which comprises SEQ ID NO:6.

60. (currently amended) The isolated nucleic acid of claim 11, wherein the protein chain comprises SEQ ID NO:7.

61. (previously added) The recombinant cell of claim 18, wherein the recombinant nucleic acid comprises SEQ ID NO:6.

62. (previously added) The method of claim 20, wherein the recombinant nucleic acid encodes SEQ ID NO:7.

63. (new) The nucleic acid of claim 38, wherein the second protein is a toxin or enzyme.

APPLICANTS' INTERVIEW SUMMARY

Applicants and Applicants' representatives thank Supervisory Patent Examiner Anthony Caputa and Examiner Karen Canella for the courtesy of the telephonic interview of May 6, 2003 in connection with the above-identified application.

Pursuant to 37 C.F.R. § 1.133 and M.P.E.P. 713.04, Applicants present this interview Summary Record of the telephonic interview of May 6, 2003 ("the Interview") between Supervisory Patent Examiner Anthony Caputa and Examiner Karen Canella and Applicants' representatives, Adriane M. Antler and Muna Abu-Shaar, in connection with the above-referenced application. During the Interview, the outstanding Office Action was discussed, as detailed below.

With respect to the rejection of claims 13 and 39-41 for lack of definiteness due to the recitation of the term "Blastp," Supervisory Patent Examiner Caputa and Examiner Canella suggested deleting the term altogether from the claims and noted that such an amendment would find support in the claims as originally filed, which did not include a recitation of "Blastp."

With respect to the rejection of claim 46 as indefinite for failing to limit claims 38-45, Dr. Antler noted that the "protein" recited in claims 38-45 encompasses proteins that are either antibodies or antibody-related molecules, and thus claim 46 clarifies that the protein is an antibody. Supervisory Patent Examiner Caputa agreed but suggested that dependencies of claim 46 on claims 38 and 45 be removed, as these claims specify antibody-related molecules and not antibodies.

Regarding the rejection of claims 14 and 42 under 35 U.S.C. § 112, first paragraph, Dr. Antler first clarified the claims to which the rejections under 35 U.S.C. § 112, first paragraph in the Office Action were to be applied. In particular, Dr. Antler noted to Supervisory Patent Examiner Caputa and Examiner Canella that the same reasoning for the rejection was not uniformly applied to all of the claims, and questioned whether the failure to reject certain claims was intentional. For example, Dr. Antler noted that claims 17 and 19 were not rejected, while claim 14 was rejected. Similarly, although claims 46-49 are dependent on claim 42, only claim 42 was rejected, and although claims 52-54 depend on claims 14 and 42, claims 52-54 were not rejected under 35 U.S.C. § 112, first paragraph.

Examiner Canella indicated that the rejection of claims 14 and 42 under 35 U.S.C. § 112, first paragraph, for lack of written description, should also apply to claims 17, 19, 46-49 and 52-54.

Regarding the substance of the rejection, Dr. Antler referred to the Interim Written Description Guidelines Training Materials published in the PTO web site (<http://www.uspto.gov/web/menu/written.pdf>), which in Example 16 refers to antibodies and discusses the maturity of antibody technology, concluding that claims to antibodies, such as in Example 16, meet the standard for written description under 35 U.S.C. § 112, first paragraph. In response, Examiner Canella suggested amending claims rejected under § 103 to recite “antibody” instead of “protein.”